UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

April 3, 2020

Jennifer Brandon
Agent for Hasa Inc.
c/o Delta Analytical Corp.
12510 Prosperity Drive, Suite 160
Silver Spring, MD 20904

Subject: Label Amendment: Emerging Viral Pathogens Claim
Product Name: Sodium Hypochlorite 8.25%
EPA Registration Number: 58232-2
Application Date: March 23, 2020
Decision Number: 561060

Dear Ms. Brandon:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Because you have opted to add statements pertaining to emerging viral pathogens to your label as described in the August 19, 2016, Guidance to Registrants: Process For Making Claims Against Emerging Viral Pathogens Not On EPA-Registered Disinfectant Labels ("Guidance"), https://www.epa.gov/sites/production/files/2016-09/documents/emerging_viral_pathogen_program_guidance_final_8_19_16_001_0.pdf, you are subject to the following additional terms of registration:

1. You may make statements pertaining to emerging viral pathogens only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, "1-800" consumer information services, social media sites and company websites (non-label related). These statements shall not appear on marketed (final print) product labels.

2. Your statements pertaining to emerging viral pathogens must adhere to the format approved on the Agency-accepted master label.

3. You may make statements pertaining to emerging viral pathogens only upon a disease outbreak that meets all the following criteria:
   a. The causative organism must be a virus that causes an infectious disease that has appeared in a human or animal population in the U.S. for the first time, or that may have existed previously but is rapidly increasing in incidence or geographic range.

      i. For human disease, the outbreak is listed in one of the following Centers for Disease Control (CDC) publications:

         A. CDC Current Outbreak List for "U.S. Based Outbreaks" (www.cdc.gov/outbreaks),
         B. CDC Current Outbreak List for "Outbreaks Affecting International Travelers" with an "Alert" or "Advisory" classification (www.cdc.gov/outbreaks) (also released through the CDC's Health Alert Network (HAN) notification process)
         C. Healthcare-Associated Infections (HAIs) Outbreaks and Patient Notifications page (www.cdc.gov/hai/outbreaks)

      ii. For animal disease, the outbreak is identified as an infectious disease outbreak in animals within the U.S. on the World Organization for Animal Health (OIE) Weekly Disease Information page (www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI).

         A. The CDC or OIE has identified the taxonomy, including the viral family and/or species, of the pathogen and provides notice to the public of the identity of the emerging virus that is responsible for an infectious disease outbreak. Based on the taxonomy of the outbreak pathogen identified by the CDC or OEI, the pathogen's viral subgroup is large non-enveloped and enveloped.

         B. The virus can be transmitted via environmental surfaces (non-vector transmission), and environmental surface disinfection has been recommended by the CDC, OIE or EPA to control the spread of the pathogen.

4. You may begin communicating statements pertaining to emerging viral pathogens only upon CDC or OIE's publication per term 3.a. of an outbreak of an emerging viral pathogen meeting all of the criteria of term 3. You must cease and remove all such non-label communications intended for consumers no later than 24 months after the original publication of the outbreak per term 3.a., unless the Agency issue written guidance to the contrary due to continued public health concerns. The emerging pathogen claim language may remain on the master label.

5. Terms from points 1 through 4 above shall become immediately void and ineffective if registration for use against rhinovirus type 37 (ATCC VR-1147) is suspended or cancelled or no longer meets the criteria for a disinfectant claim (see EPA Product Performance Test Guideline 810.2200). In addition, terms B.1 through B.4 above shall become immediately void and ineffective upon your receipt of evidence of ineffectiveness against any pathogen in a less-resistant Spaulding category.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, you may contact the disinfectants list at disinfectantslist@epa.gov.

Sincerely,

Steven Snyderman

Steven Snyderman, Acting Product Manager 33
Regulatory Management Branch 1
Antimicrobials Division (7510P)
Office of Pesticide Programs

Enclosure: stamped label

Sodium Hypochlorite 8.25%

[*Approved Alternate Brand Names*: Fuerte Extreme Bleach, Magnum Bleach, Tandil Concentrated Bleach, First Street Germicidal Bleach]

ACTIVE INGREDIENT:
Sodium Hypochlorite 8.25%
INERT INGREDIENTS 91.75%
TOTAL: 100.00%

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID	
If in eyes:	• Hold eye open and rinse slowly and gently with plenty of water for 15 – 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing:	• Take off all contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	

[See additional precautions and directions on back panel]

Manufactured by [for]:
HASA, INC.
23119 Drayton Street
Saugus CA 91350

[*Optional: The following may be included in addition to / instead of "Manufactured by [for]:"* [Distributed by] *or* [Packaged for] *or* [Marketed [by] [through]]; *insert additional company name and address*]

EPA Reg. No. 58232-2

EPA Est. No. 58232-CA-1

NET CONTENTS:

Read Entire Label Before Using This Product

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear safety glasses and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

[In accordance with PR notice 95-1, use the following complete Environmental Hazards statement for containers 5 gallons and larger]

ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

[For containers smaller than 5 gallons use the following]

ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic organisms.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membrane.

STORAGE AND DISPOSAL

Do not contaminate food or feed by storage, disposal, or cleaning of equipment.

STORAGE: Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration. In case of spill, flood areas with large quantities of water.

PESTICIDE DISPOSAL: Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple Rinse as follows: Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Follow Pesticide Disposal instructions for rinsate disposal. Repeat this procedure two more times. Offer container for recycling if available or reconditioning if appropriate or place in trash.

Refillable container. Refill this container with sodium hypochlorite only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning the container before refilling is the responsibility of the refiller. To clean the container before final disposal, fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Follow Pesticide Disposal instructions for rinsate disposal. Repeat procedure two more times. Offer container for recycling if available or reconditioning if appropriate or place in trash.

[Non-Pesticidal Claims:]

Bleaches Out Tough Stains
Boosts Cold Water Cleaning Power
Boosts Laundry Cleaning Power
Brightens
Cleans
Cold Water Booster
Commercial/Institutional Use
[Compatible] For Use In [High Efficiency] [or HE] Washing Machines
Concentrate[d]
Concentrated [product name] [Bleach]
Concentrated [product name] [Bleach] is still an excellent cleaner
Concentrated [product name] [Bleach] with a new bottle that is easy to pour
Contains No Phosphorus
Deodorizes
Do Not Drop
Easier to Handle Bottle
Easy Pour Bottle
[Eliminates] [*or* Removes] Odors
For a Cleaner, Fresher Household and Laundry
For Cold Washing
For Laundry and Home
For Odor Free Laundry
For [Use in] HE [*or* High Efficiency] [*or* Front Load] [Washing] Machines] [washers]
Freshen[s]
Helps to maintain your HE [or High Efficiency] machine
[High Efficiency] [*or* HE] [Compatible]
Household [Use]
Laundry [Use]
More Value
Multi-Purpose
Now concentrated
Purest White
Recyclable Container
Removes Non-living Allergens
Removes [Tough] Stains
Safe for all Washing Machines
Safe on HE [*or* Front Loading] Washing Machines
Smaller bottle means easier to handle, pour, and store
Stain Removal
Ultra
Ultra Concentrated
Ultra Concentrated Supreme Clean Bleach
Wear Gloves When Cleaning for Prolonged Periods
White Bright
Whitens
Works Even in Cold Water

[Pesticidal Claims:]

Chlorinating Liquid for Pool & Spa Sanitization
Disinfects
For Sanitization of Food Processing and Dairy Equipment
Sanitizes

[SPECIFIC ORGANISM INSTRUCTIONS: Use the following for labels with specific organism claims.]

[Pesticidal Claims:]

Kills [99.9% of] Common Household Germs [including:] [list any approved organism]
Kills Viruses that cause Colds and Flu

[List of Approved Organisms]

[American Type Culture Collection (ATCC) numbers are required on the master label, but are not required to be listed on the production label]

This product when used as directed on hard, non-porous surfaces is effective against the following:

Fungicidal
Trichophyton mentagrophytes (Athlete's foot fungus) [ATCC 9533]

Bactericidal
Staphylococcus aureus [ATCC 6538]
Escherichia coli [(E. coli)] [ATCC 11229]
Salmonella enterica [salmonella] [ATCC 10708]
Streptococcus pyogenes [ATCC 19615]

Virucidal
Avian Influenza A virus [(Avian Flu virus)] [H5N1]
Avian Influenza A Reassortant Virus [H3N2]
Influenza A virus [(Hong Kong Strain)] [H3N2]
Influenza A virus [(H1N1 Strain)] [H1N1]
Rhinovirus type 37 [ATCC VR-1147]

Non-Food Contact Sanitizer
Enterobacter aerogenes [ATCC 13048]
Staphylococcus aureus [ATCC 6538]

[SPECIAL INSTRUCTIONS FOR APPROVED ORGANISMS: Use the following instructions for use with the applicable listed organisms specified in the Approved Organism list above:]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Note: This product degrades with age and exposure to sunlight and heat. Use a chlorine test kit and increase dosage as necessary to obtain the required level of available chlorine.

[TO] DISINFECT AND DEODORIZE KITCHEN, DISHES, SINKS: Pre-clean surfaces and rinse. Use 1/3 cup bleach mixed with 2 quarts of water (to obtain 3400 ppm available chlorine) to soak cleaned dishes, teapot, cups, sinks, etc. for 5 minutes. Rinse with a solution of approximately 2 teaspoons of bleach per gallon of water to prepare a 200 ppm solution. Do not use on silverware. Bleach solution can be used on porcelain, enamel, etc. surfaces after cleaning. Let air dry.

TOILET BOWLS: Pre-clean toilet and flush. To sanitize and deodorize: Pour in 1 cup of this product - swab with brush, making sure to get under the rim. Let stand for 10 minutes. Flush. DO NOT use with bowl cleaners or any other household chemicals.

DISINFECTING AND DEODORIZING BATHROOMS: To disinfect, deodorize and eliminate mold and mildew from washable surfaces such as tubs, showers, counter tops, sinks, glazed ceramic tile and vinyl flooring. Pre-clean surfaces and rinse. Use 1 cup of product with 1 ½ gallons of water (to obtain 3400 ppm available chlorine) and spread on pre-cleaned surfaces. Let stand 5 minutes, then drain or rinse and air dry.

Emerging Viral Pathogens Claims

[This product qualifies for emerging viral pathogen claims per EPA's "Guidance to Registrants: Process for Making Claims Against Emerging Viral Pathogens not on EPA-Registered Disinfectant Labels" when used in accordance with the appropriate use directions indicated below.]

[This product meets the criteria to make claims against emerging viral pathogens from the following viral categories:]

- Enveloped Viruses
- Large Non-Enveloped Viruses

For an emerging viral pathogen that is a/an:	…follow the directions for use for the following organism on the label:
Enveloped Virus	Rhinovirus type 37
Large Non-Enveloped Virus	Rhinovirus type 37

[Statements must adhere to one or both of the following formats:]

> **[Product name]** has demonstrated effectiveness against viruses similar to **[name of emerging virus]** on hard, non-porous surfaces. Therefore, **[product name]** can be used against **[name of emerging virus]** when used in accordance with the directions for use against **[name of supporting virus – see table above]** on hard non-porous surfaces. Refer to the **[CDC or OIE]** website at **[pathogen-specific website address]** for additional information.
>
> **[Name of illness/outbreak]** is caused by **[name of emerging virus]. [Product name]** kills similar viruses and therefore can be used against **[name of emerging virus]** when used in accordance with the directions for use against **[name of supporting virus – see table above]** on hard non-porous surfaces. Refer to the **[CDC or OIE]** website at **[website address]** for additional information.

[These statements shall not appear on marketplace (final printed) labels]

[The following directions apply to product labeling without specific organism claims]

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage, as necessary, to obtain the required level of available chlorine.

SWIMMING POOL WATER DISINFECTION

NEW POOL OR SPRING START UP - For a new pool or spring start-up, super-chlorinate with 95 to 200 oz. of this product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Entry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

TESTING - Check the level of available chlorine with a test kit. Stabilized pools should maintain a residual of 1 - 4 ppm available chlorine. Adjust and maintain pool water pH between 7.2 and 7.8. Adjust and maintain the alkalinity of the pool between 80 to 150 ppm.

MAINTENANCE - To maintain the pool, add manually or by a feeder device 20 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 to 1.0 ppm by weight. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits. Frequency of water treatment will depend upon temperature and number of swimmers.

SUPER-CHLORINATION - Every 7 days, or as necessary, super-chlorinate the pool with 95 to 200 oz. of this product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Re-entry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

DRAINING POOL - When water is to be drained from the pool, chlorine must be allowed to dissipate from treated pool water before discharge. Do not chlorinate the pool within 24 hours prior to discharge.

WINTERIZING POOL - Thoroughly clean and vacuum the pool. While water is still clear and clean, apply 6 oz. of product per 1,000 gallons, while filter and pump are operating, to obtain a 3 ppm-available chlorine residual, as determined by a suitable test kit. Cover pool, prepare heater, filter and associated components for winter by following manufacturers' instructions.

SPAS, HOT-TUBS, IMMERSION TANKS, ETC.

NEW SPA OR START UP - Apply 10 oz. of product per 1,000 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Entry into treated spas is prohibited above levels of 5 ppm due to risk of bodily harm.

TESTING - Check the level of available chlorine with a test kit. Spas should maintain a residual of 1.5 - 5.0 ppm available chlorine. Adjust and maintain spa water pH between 7.2 and 7.8. Adjust and maintain thg0i, alkalinity of the spa between 80 to 150 ppm.

MAINTENANCE - To maintain the water, apply 10 oz. of product per 1,000 gallons of water over the surface to maintain a chlorine concentration of 1.5 - 5.0 ppm. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

During extended periods of non-use, add 4 oz. of this product per 500 gallons of water twice a week or as needed to maintain a 1.5 - 5.0 ppm chlorine concentration.

SUPER-CHLORINATION - After each use, shock treat with 15 oz. of this product per 500 gallons of water to control odor and algae. Re-entry into treated spas is prohibited above levels of 5 ppm due to risk of bodily harm.

HUBBARD AND IMMERSION TANKS - Add 10 oz. of this product per 200 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use, drain the tank. Add 10 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths. **[NOT FOR USE IN CALIFORNIA].**

HYDROTHERAPY TANKS: Add 2 oz. of this product per 1,000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Re-entry into treated spas is prohibited above levels of 5 ppm due to risk of bodily harm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly and clean before refilling.

SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES

[Optional Subheading:] Kitchen (Food Contact) Applications: For Sinks, Countertops, Dishes, Utensils, and Appliances

RINSE METHOD: A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solution containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 4 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm of available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight.

Sanitizers used in automated systems may be used for general cleaning may not be reused for sanitizing purposes.

IMMERSION METHOD: A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 4 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment.

Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

FLOW/PRESSURE METHOD: Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 4 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to ensure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine. Discard the first portion of milk or beverage dispensed from the equipment following sanitization.

CLEAN-IN-PLACE METHOD - Thoroughly clean equipment after use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 4 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for a least 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine. Discard the first portion of milk or beverage dispensed from the equipment following sanitization.

SPRAY METHOD – Preclean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing this product in a ratio of 4 oz. product per 10 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 12 oz. per 10 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm available chlorine solution.

SANITIZATION OF POROUS FOOD CONTACT SURFACES

[Optional Subheading:] Kitchen (Food Contact) Applications: For Cutting Boards

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not soak equipment overnight.

Prepare a 200 ppm sanitizing solution by thoroughly mixing 4 oz. of this product with 10 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain.

Prepare a 200 ppm sanitizing solution by thoroughly mixing 4 oz. of this product with 10 gallons of water. Prior to using equipment, rinse (or immerse) all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

SPRAY METHOD – Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing this product in a ratio of 12 oz. product per 10 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. pf this product with 10 gallons of water.

SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES

[Optional Subheading:] Bathroom Applications: For Toilet Bowls

RINSE METHOD: Prepare a sanitizing solution by thoroughly mixing 4 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD: Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 4 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean

equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SPRAY METHOD – Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing this product in a ratio of 4 oz. product per 10 gallons of water. Use spray equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES

[Optional Subheading:] Bathroom Applications: For Showers, Bath Tubs, Sinks, Floors, vinyl and glazed ceramic tile

RINSE METHOD: Prepare a disinfecting solution by thoroughly mixing 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak overnight.

IMMERSION METHOD: Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES

RINSE METHOD: Prepare a sanitizing solution by thoroughly mixing 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD: Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 12 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

SPRAY METHOD – After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 12 oz. of this product with 10 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

WAREWASHING

FOR SANITIZING TABLEWARE IN LOW TEMPERATURE DISHWASHING MACHINE – Dispense this product into final rinse water at 100 ppm available chlorine. Do not allow concentration to fall below 50 ppm. Air dry. Dispenser should be set to deliver a sanitizing solution of 2 oz. per 10 gallons of water to provide 100 ppm of available chlorine. Only a qualified service representative should set or adjust dispenser on the machine.

SEWAGE & WASTEWATER EFFLUENT TREATMENT

The disinfection of sewage effluent must be evaluated by determining the total number of coliform bacteria and/or fecal coliform bacteria, as determined by the Most Probable Number (MPN) procedure, to ensure that the chlorinated effluent that has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary wastewater effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection, the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, should be the final and primary standard and the chlorine residual should be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting wastewater disinfection:

1. **Mixing**: It is imperative that the product and the wastewater be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the wastewater.

2. **Contacting**: Upon flash mixing, the flow through the system must be maintained.

3. **Dosage/Residual Control**: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

SEWAGE & WASTEWATER TREATMENT

EFFLUENT SLIME CONTROL: Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 20 to 200 oz. of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 3 oz. of this product with 100 gallons of water.

FILTER BEDS SLIME CONTROL: Remove filter from service, drain to a depth of 1 ft. above filter, and add 128 oz. of product per 20 sq. ft. evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and back washing filter.

DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)

PUBLIC SYSTEMS: Mix a ratio of 2 oz. of this product to 100 gallons of water. Begin feeding solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

INDIVIDUAL SYSTEMS - DUG WELLS: Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 2 oz. of this product into 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine water is noted. Stop pump and wait at least 24 hours. After 24 hours, flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS: Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. This solution can be made by thoroughly mixing 2 oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of the pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS: Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well must be disinfected. Consult your local Health Department for further details.

EMERGENCY DISINFECTION: When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 3 drops of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.

PUBLIC WATER SYSTEMS

RESERVOIRS: ALGAE CONTROL: Hypochlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

MAINS: Thoroughly flush section to be sanitized by discharging from hydrants. Permit a flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

NEW TANKS, BASINS, ETC.: Remove all physical soil from surfaces. Place 40 oz. of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to surface.

NEW FILTER SAND: Apply 160 oz. of this product for each 150 to 200 cubic feet of sand. The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand.

NEW WELLS: Flush the casing with 50 ppm available chlorine solution of water containing 10 oz. of this product for each 100 gallons of water. The solution should be pumped or fed by gravity into the well after thorough mixing with agitation. The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

EXISTING EQUIPMENT: Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 34 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 10 oz. of this product for each 5 gallons of water (approximately 1,000 ppm available chlorine). After drying, flush with water and return to service.

EMERGENCY DISINFECTION AFTER FLOODS

WELLS: Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 10 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Retreat well if water samples are biologically unacceptable.

RESERVOIRS: In case of contamination by overflowing streams, establish hypochlorinating stations upstream of reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

BASINS, TANKS, FLUMES, ETC.: Thoroughly clean all equipment, then apply 40 oz. of product per cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours, drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a

solution containing 10 oz. of this product for each 5 gallons of water (1,000 ppm available chlorine). Allow to stand for 2 to 4 hours, flush, and return to service.

FILTERS: When the sand filter needs replacement, apply 160 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 75 oz. per 20 sq. ft. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 160 oz. of this product per each 50 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain, and proceed with normal backwashing.

DISTRIBUTION SYSTEM: Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until consistent available chlorine residual of at least 10 ppm remains after a 24-hour retention time. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER FIRES

CROSS CONNECTIONS OR EMERGENCY CONNECTIONS: Hypochlorination or gravity feed equipment should be set up near the intake of the untreated water supply. Apply sufficient product to give a chlorine residual of at least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER DROUGHTS

SUPPLEMENTARY WATER SUPPLIES: Gravity or mechanical hypochlorite feeders should be set up on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC.: Thoroughly clean all containers and equipment. Spray with a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 10 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER MAIN BREAK

MAINS: Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24-hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

COOLING TOWER/EVAPORATIVE CONDENSER WATER

SLUG FEED METHOD - Initial dose: When system is noticeably fouled, apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 20 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 20 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

[Use one or more of following laundry directions as appropriate:]

LAUNDRY [BLEACHING]

BRIGHTENS WHITES AND REMOVES STAINS - This bleach works with detergent to remove tough dirt and stains that detergent alone cannot.

SAFE FOR COLOR-FAST WASHABLES - This bleach brightens and cleans colored washables. Use to bleach white and color-fast fabrics only. Test fabrics made of acrylics, cotton, nylon, polyester, and rayon to be sure product is safe for use. To check if a garment is bleach safe, try the following BLEACH SAFE TEST: Apply one drop of a test solution (1 tablespoon of bleach plus ¼ cup of water) to a hidden part of the fabric. Check all colors including trim. Let stand one minute, then blot dry. No color change means the article can be bleached safely. DO NOT USE ON ACETATE, LEATHER, SILK, SPANDEX, OR WOOLS.

PRETREAT STAINS AND HEAVY SOILS - Stubborn stains may be soaked for 5 minutes in a solution of ¼ cup of bleach to one gallon of cool water.

LAUNDRY USE - Add ½ cup of bleach and laundry detergent to wash water. This bleach may be added to the wash water before laundry is put in, or for best results, dilute ¾ cup of bleach with a quart of water and add five minutes after the wash cycle has begun. For very large laundry loads, add slightly more bleach.

[Additional Formats:]

LAUNDRY USE - Before adding clothes, mix ½ cup of bleach with water in top-loading 16 gallon machines or mix ½ cup bleach with water in front-loading 8 gallon machines. For large top loading automatics or larger heavily soiled loads, use 1 cup. Add clothes. Wash and rinse with usual cycles. DO NOT use on Acetate, Leather, Silk, Spandex, Wool, Mohair or non-fast colors.

[TO] REMOVE STAINS: Mix ¼ cup of bleach with a gallon of water. Soak stained area for 5 minutes to remove grass, ink, coffee, tea, scorch, fruit, etc. Rinse thoroughly.

LAUNDRY SANITIZERS

SANITIZES AND ELIMINATES ODORS - This bleach sanitizes and deodorizes laundry by eliminating most germs and their odors.

HOUSEHOLD LAUNDRY SANITIZERS - IN SOAKING SUDS: Thoroughly mix 4 oz. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

IN WASHING SUDS: Thoroughly mix 4 oz. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

COMMERCIAL LAUNDRY SANITIZERS

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 4 oz. of this product with 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution to the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.

FARM PREMISES

Remove all animals, poultry, and feed from premises, vehicles and enclosures. Remove all litter and manure from floors, walls, and surfaces of barns, pens, stalls, chutes, and other facilities occupied or traversed by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1,000 ppm available chlorine for a period of 10 minutes. A 1,000 ppm solution can be made by thoroughly mixing 20 oz. of this product with 10 gallons of water. Immerse all halters, ropes and other types of equipment used in handling and restraining animals or poultry, as well as the cleaned forks, shovels, and scrapers used for removing litter and manure. Ventilate buildings, cars, boats and other closed spaces. Do not house livestock or poultry or employ equipment until chlorine has been dissipated. All treated feed racks, mangers, troughs, automatic feeders, fountains and waterers must be rinsed with potable water before reuse.

PULP AND PAPER MILL PROCESS WATER SYSTEMS

SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 20 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down.

Subsequent Dose: When microbial control is evident, add 20 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 95 to 200 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

AGRICULTURAL USES

BEE CELLS AND BEE BOARDS: Disinfect leaf cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 2 Tsp. of this product to 100 gallons of water. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odor has dissipated.

FOOD EGG SANITIZATION: Thoroughly clean all eggs. Thoroughly mix 4 oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply potable water rinse. The solution must not be reused to sanitize eggs.

FRUIT & VEGETABLE WASHING: Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 10 oz. of this product in 200 gallons of water to make a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

POST-HARVEST PROTECTION - Use this product to control organisms causing decay of fruits and vegetables after harvest. Prior to use, all fruits and vegetables must be thoroughly washed using an appropriate cleaning solution. Remove all soils and other residues prior to treating with this product. After washing transfer the fruits and vegetables to a separate tank containing the treatment solution.

Apply at the recommended concentration of available chlorine for various fruits and vegetables as listed in the table below. To obtain a 100 ppm solution of available chlorine, add 40 oz. of this product to 200 gallons of water. Maintain the pH of the solution between 6.0 and 8.0 with a dilute solution of hydrochloric acid or other approved buffer. For other ppm concentrations, use appropriate dilutions. Rinse with potable water after treatment, except as specified in the table.

Potatoes can be sanitized after cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per ton of potatoes. Thoroughly mix 2 oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

RICE SEED TREATMENT - To aid in surface treatment of rice against non-public health organisms for prevention of bakanae disease Fusarium fukikuroi [syn. F. moniliforme] or Gibberella fujikuroi. Mix 4 gallons of this product per 100 gallons of water to make a 3,000 ppm available chlorine solution. Mix solution thoroughly and then immerse seeds in the solution. Allow the seeds to soak for two hours, then drain solution and replace with fresh water. Continue seed soaking and draining as usual. Do not apply undiluted product directly to seed.

Alternatively, make a 1,500 ppm available chlorine solution by mixing 2 gallons of this product with 100 gallons of water. Mix solution thoroughly and then immerse seeds in the solution. Soak and drain seed as usual. No rinsing is required. Do not apply undiluted product directly to seed.

Prepare a fresh solution for each batch of seed. Do not use treated seeds for food or feed.

MEAT & POULTRY PLANT PROCESS WASH WATER - This product may be used in processing water of meat and poultry plants at concentrations up to 5 ppm calculated as available chlorine. Chlorine may be present in poultry chiller intake water, and in carcass wash water at concentrations up to 50 ppm calculated as available chlorine. Use a suitable test kit to adjust to desired available chlorine level. Chlorine must be dispensed at a constant and uniform level and the method or system must be such that a controlled rate is maintained. Thoroughly mix 2 oz. of this product to 200 gallons of water to obtain 5 ppm available chlorine or 20 oz. to 200 gallons of water for 50 ppm available chlorine.

AQUACULTURAL USES

FISH PONDS: Remove fish from ponds prior to treatment. Thoroughly mix 200 oz. of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.

FISH POND EQUIPMENT: Thoroughly clean all equipment prior to treatment. Thoroughly mix 4 oz. of this product to 10 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for 1 hour.

MAINE LOBSTER PONDS – Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 12,000 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rocks and dams are treated with product. Permit high tide to fill the pond and then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond. **[NOT FOR USE IN CALIFORNIA]**

CONDITIONING LIVE OYSTERS: Thoroughly mix 10 oz. of this product to 10,000 gallons of water at 50° to 70° degree F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50° degree F. **[NOT FOR USE IN CALIFORNIA]**

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS: Prepare a solution containing 200 ppm of available chlorine by mixing 4 oz. of product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm, as determined by a test kit.

SANITIZATION OF DIALYSIS MACHINE

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 12 oz. of this product to 10 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to ensure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multi patient hemodialysate systems. This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudomonicide) when tested by AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program, which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes.

Consult the guidelines for hemodialysate systems, which are available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.

ASPHALT OR SEALED WOOD ROOFS AND SIDINGS [NOT FOR USE IN CALIFORNIA]

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5,000 ppm available chlorine solution. Mix 10 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.

BOAT BOTTOMS

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 35 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit.

ARTIFICIAL SAND BEACHES [NOT FOR USE IN CALIFORNIA]

To sanitize the sand, spray a 500 ppm available chlorine solution containing 10 oz. of this product per 10 gallons of water at frequent intervals. Small areas can be sprinkled with a watering can.

IRRIGATION SYSTEMS

This product when used properly will control non-public health bacterial and algae growth in irrigation water systems, and thereby provide a uniform distribution of water. This product may be applied through irrigation systems such as: sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move; flood (basin); furrow; border or drip (trickle) or subsurface irrigation systems. Other irrigation systems not listed may be used upon approval or recommendation from the State agency responsible for pesticide regulation, or an authority designated by the pesticide regulatory agency.

GENERAL - Do not contaminate ground water or expose humans or animals by the use of irrigation systems to apply pesticide chemicals.

Any chemigation system must include mechanical devices and/or design features adequate to protect the irrigation source water and the general environment from pesticide contamination due to equipment failure, malfunctions or accidents. Such devices or design features must be approved or recommended by the State agency responsible for pesticide regulation, or recommended/approved by an authority designated by the pesticide regulatory agency.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless safety devices or protective measures for preventing contamination of public water systems are in place. Such devices or protective measures must be approved or recommended by the State agency responsible for pesticide regulation, or recommended/approved by an authority designated by the pesticide regulatory agency.

A person knowledgeable of the chemigation/irrigation system and responsible for its operation or under the supervision of the responsible person, must shut the system down and make necessary adjustments, should the need arise.
Some state pesticide agencies may require a person operating a chemigation system to obtain and possess pesticide applicator certification or a license to operate such a system. It is the responsibility of the operator of the chemigation system to determine if certification or licensing is required.

CALIBRATION - If the irrigation water has high levels of nutrients causing bacterial, algae, and other biofouling that reduces system performance, continuous chlorination may be necessary. The recommended level of free residual chlorine for continuous feed is 1 to 2 ppm, measured at the end of the farthest lateral using a good quality fest kit for available chlorine. The available chlorine level should be checked periodically. If you have questions about calibration or other technical aspects, you should contact State Extension Service specialists, the equipment manufacturer or other experts.

SHOCK TREATMENTS - Periodic shock treatments at a higher available chlorine rate of up to 20 ppm free residual may be appropriate where non-public health bacteria and/or algae clogging and build-up are not managed by maintaining a continuous residual. The frequency of the chlorine shock application depends upon the frequency and extent of bio-clogging.
INJECTION - The rate of treatment injection into the irrigation water flow required to supply the desired available chlorine dosage in ppm can be estimated using the following equation:

I = (0.006) x (ppm desired) x (system flow rate in gpm) / (bleach strength)

Where I is the injection rate in gallons per hour.

For example: To obtain 5 ppm available chlorine at a water flow rate of 30 gallons per minute while injecting 8.25% sodium hypochlorite solution, you should inject:

I = (0.006) x (5) x (30) / 8.25 = 0.11 gallons per hour of 8.25% sodium hypochlorite solution.

NOTE: This calculation, when applied to clean water, which is free of amine nitrogen and organic nutrients, will give a result close to the actual product injection rate required. In actual practice, however, contaminants in the water may consume treatment such that the available chlorine concentration is less than expected from the calculation. To correctly establish the product dose setting required, it is necessary to measure the available chlorine at the end of the treated increment in the field and adjust the treatment dose setting until the desired available chlorine concentration is obtained. Only experience can establish the actual injector settings required to provide the desired level of available chlorine at the end of the farthest lateral.

Injection should be started during irrigation, near the end of the irrigation sequence, but early enough to establish the desired available chlorine concentration throughout the system being treated. Apply the treatment upstream of the filter to help keep the filter clean. Determine the level of available chlorine as described in the "Calibration" section, above, using a chlorine test kit. Allow sufficient time to achieve a steady reading.

DO NOT apply product when fertilizers, herbicides, and insecticides are being injected since they will consume the available chlorine and may produce toxic reaction products.

SENSITIVE PLANT SPECIES PRECAUTIONS - Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. Certain plants, including various species of trees, flowers, shrubs, agronomic crops, fruits and vegetables are adversely affected by chlorinated irrigation. The use of this product can impact the growth, appearance, and health of the plants. Begonias, geraniums and other ornamental plant species are known to be sensitive to continuous chlorination at levels of 1-2 ppm free chlorine. Plant species such as tomato, lettuce, broccoli, and petunia are sensitive to periodic chlorination levels of 10-20 ppm free chlorine.
If uncertain of a plant's tolerance, consult an agronomist or a support agency such as a University Extension Service or your local agent of the U.S. Department of Agriculture.

CHLORINE DOSAGE FOR POST-HARVEST TREATMENT OF FRUIT AND VEGETABLE WASH WATER
Available Chlorine Required in Treatment Water

COMMODITY	TREATMENT METHOD	AVAILABLE CHLORINE TO APPLY (ppm)	COMMENTS
Apples	Dump Tank Flume Spray	100-500 30-50 100-200	Submerge the apples for a minimum of 45 seconds. Do not exceed 90 seconds contact time in dump tank or flume. Spray until thoroughly wet.
Artichokes	Spray	100-150	Spray until thoroughly wet.
Asparagus	Spray Hydrocooler	100-150 125-150	Spray until thoroughly wet. Hydrocool for 20 -30 minutes.
Brussel Sprouts	Spray	100-150	Spray until thoroughly wet.
Cabbage (Chopped)	Spray	80-100	Spray until thoroughly wet. After treatment, the adhering moisture must be removed by centrifuging.
Carrots	Dump Tank Flume Spray	100-200 100-200 50-100	Remove the carrots from dump tank or flume after 1 – 5 minutes contact time. Spray until thoroughly wet.
Cauliflower	Spray	300-400	Spray until thoroughly wet.
Celery	Spray	100-110	Spray until thoroughly wet.
Cherries	Spray	75-100	Spray until thoroughly wet.
Cucumbers	Spray	300-350	Spray until thoroughly wet.
Garlic	Spray Tank	75-100 75-150	Spray until thoroughly wet. Remove from tank after 2 - 5 minutes contact.
Grapefruits	Spray Drench	100-150 40-75	Spray until thoroughly wet. Drench for 3 - 5 minutes. For citrus quarantine treatment, use 200 ppm of available chlorine at pH 6.0 - 7.5 in drench tank.
Lemons	Spray Drench Dump Tank	100-150 40-75 30-50	Spray until thoroughly wet. Drench for 3 - 5 minutes. Remove from tank after 2 -3 minutes contact time.
Lettuce (whole leaf, shredded, chopped, or baby greens)	Spray Drench Dump Tank / Hydrocooler	100-150 50-150 50-150	Thoroughly wet lettuce. After treatment, the adhering moisture must be removed by centrifuging. Potable water rinse is not required

CHLORINE DOSAGE FOR POST-HARVEST TREATMENT OF FRUIT AND VEGETABLE WASH WATER
Available Chlorine Required in Treatment Water

COMMODITY	TREATMENT METHOD	AVAILABLE CHLORINE TO APPLY (ppm)	COMMENTS
Melons (All varieties)	Hydrocooler Spray	100-150 100-150	Hydrocool for 20 - 30 minutes. Spray until thoroughly wet.
Mushrooms	Spray	100-120	After treatment with the chlorinated water, mushrooms must be treated with 0.2% sodium bisulfate (anti-oxidant) to prevent browning.
Nectarines	Hydrocooler Spray	30-75 50-100	Hydrocool for 20 - 30 minutes. Spray until thoroughly wet.
Onions (Dry)	Spray Tank	75-120 75-120	Spray until thoroughly wet. Remove from tank after 2 - 3 minutes contact time.
Onions (Green)	Spray	75-120	Spray until thoroughly wet.
Oranges	Drench Spray	20-30 20-30	Drench for 3 – 5 minutes. Spray until thoroughly wet.
Peaches	Hydrocooler Spray	30-75 50-100	Hydrocool for 20 - 30 minutes. Spray until thoroughly wet.
Pears	Dump Tank	200-300	Remove from tank after 2 - 3 minutes contact time.
Peppers	Spray	300-400	Spray until thoroughly wet.
Pineapples	Spray Drench Dump Tank	100-150 40-100 30-100	Spray until thoroughly wet. Drench for 3 – 5 minutes. Remove from tank after 2 - 3 minutes contact time. Potable water rinse is not required for pineapple.
Plums	Hydrocooler Spray	30-75 50-100	Hydrocool for 20 - 30 minutes. Spray until thoroughly wet.
Potatoes	Dump Tank Flume Spray	65-125	Remove from tank and flume after 2 - 5 minutes contact time. Spray until thoroughly wet.

CHLORINE DOSAGE FOR POST-HARVEST TREATMENT OF FRUIT AND VEGETABLE WASH WATER
Available Chlorine Required in Treatment Water

COMMODITY	TREATMENT METHOD	AVAILABLE CHLORINE TO APPLY (ppm)	COMMENTS
Potatoes (White)	Spray	65-125	This concentration of chlorine should be used only if bleaching of potatoes is desirable. Spray until thoroughly wet on cleaned potatoes.
Radishes	Spray	75-150	Spray until thoroughly wet.
Spinach	Hydrocooler Spray	30-75 50-100	Hydrocool for 20 - 30 minutes. Spray until thoroughly wet.
Stone Fruit	Hydrocooler	30-75	Hydrocool for 20 - 30 minutes.
Tomatoes	Tank Spray	300-350 100-150	Remove after 2 - 3 minutes of contact time in the tank. Spray until thoroughly wet.
Yams	Tank	100-200	Remove after 2 - 3 minutes of contact time in the tank.

[Optional Graphics]

[other sizes may be substituted]